

REMARKS

In the parent patent application, US patents 4,824,641 to Williams and 4,187,724 to Citrin were cited. In order to more clearly distinguish over such references, Applicants' have amended claim 1 of their patent application to better define their pipette mounting shaft which is specially designed to releasably receive and support a pipette tip including substantially cylindrical and axially spaced inner surface regions defining an annular sealing region.

As described in the patent application, the mounting shaft as claimed is specifically structured to insure that there will be a single air-tight seal between the shaft and pipette tip thereby minimizing the mounting and ejection forces which must be generated by a pipette user in mounting and ejecting the pipette tip from the shaft. Also, the mounting shaft is specifically structured to provide separate lateral support for the pipette tip on the shaft without increasing the mounting and ejection forces which the pipette user must generate to mount the pipette tip on the shaft with an air-tight seal therebetween and to subsequently eject the tip from the shaft after use is complete. This is accomplished by dimensioning the mounting shaft in its lateral support zone so as to have an outer diameter that is slightly less than the inner diameter of the substantially cylindrical lateral support region on the inner surface of the pipette tip. This structure is intended to maintain a small friction free spacing between the lateral support zone and the lateral support region. However, when and if the pipette tip tilts on the mounting shaft, as during "touching off", the

lateral support zone is sufficiently close to the lateral support region as to provide lateral support for the tip on the shaft. This is to be distinguished from the teachings of Williams which inherently require a relatively high sliding friction contact between the alignment ring 274 protruding from the inner surface of the pipette tip 22A and the surface 279 on the mounting shaft to provide for continual alignment of the tip on the shaft. Williams therefore teaches away from the low mounting and ejection force design of the Applicants as defined in amended claim 1.

In Citrin, 84, 84' are O rings seated in grooves 86, 86' formed in the pipette working end 82. Such O rings inherently provide two air tight seals between a pipette tip 22 and the working end 82. Inherent in such a redundant seal configuration are the relatively high pipette tip mounting and ejection forces which the structure of Applicants' amended claim 1 is intended to minimize. Specifically, in Citrin, there is no lateral spacing between a lateral support zone and a lateral support region as is part of the structure defined by Applicants in amended claim 1.

Accordingly, favorable consideration of Applicants' claim 1 in view of the foregoing arguments is earnestly solicited.

Respectively submitted,



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